

Serial No.: 10/088,788

### **REMARKS**

Claims 1-12 are pending in the application. Claims 1-3 have been amended herein. Favorable reconsideration of the application, as amended, is respectfully requested.

#### **I. OBJECTION TO SPECIFICATION**

The specification has been objected to as failing to include an abstract on a separate sheet. Submitted herewith is the abstract on a separate sheet. Withdrawal of the objection is respectfully requested.

#### **II. REJECTION OF CLAIMS 1-3 UNDER 35 USC §112, 2<sup>nd</sup> ¶**

Claims 1-3 have been rejected under 35 USC §112, second paragraph, as being indefinite. Withdrawal of this rejection is respectfully requested for at least the following reasons.

Regarding claims 1 and 2, the Examiner indicates it should be clear in the claims what each of the viscosity coefficients define or represent. Accordingly, claims 1 and 2 have been amended to incorporate the description as found in the Specification at page 3, line 9 to page 4, line 8.

Regarding claim 3, the Examiner notes that there is insufficient antecedent basis for "other phase". In order to clarify and provide proper antecedent basis, claim 3 has been amended to recite the "another" phase in relation to the another phase recited in claim 2.

#### **III. REJECTION OF CLAIMS 1, 2, 11 AND 12 UNDER 35 USC §103(a)**

Claims 1-2 and 11-12 stand rejected under 35 USC §103(a) based on Applicants Admitted Prior Art (AAPA) in view of *Carr et al.* This rejection is respectfully traversed for at least the following reasons.

Claims 1 and 2 each recite the feature of the invention whereby the nematic liquid crystal has viscosity coefficients  $\eta_1$ ,  $\eta_2$  and  $\gamma_1$  such that  $(\eta_1 - \eta_2)/\gamma_1 \geq 1.15$  or  $(\eta_1 - \eta_2)/\gamma_1 \leq 0.9$ . Such feature is advantageous in that a switching speed of a nematic liquid

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crystal device is increased and a relaxation time is reduced. Thus, it is possible to substantially increase the refresh rate of a display. (See, e.g., Specification, p. 8, third paragraph, to p. 9, first paragraph; and Fig. 5).

The Examiner relies on *AAPA* as teaching a liquid crystal device as claimed with the exception of the particular viscosity coefficients relationship recited in claims 1 and 2. However, the Examiner contends that *Carr et al.* discloses the particular viscosity coefficients relationship recited in claims 1 and 2. The Examiner submits that *Carr et al.* teaches the dependency of response times on a number of viscosity coefficients. *The Examiner argues that the particular viscosity coefficients relationships recited in claims 1 and 2 represent mere optimizations that involve only routine skill in the art.*

Applicants respectfully disagree with the Examiner's assertion. The Examiner relies on column 1, lines 50-54 of *Carr et al.* as supporting his conclusions. However, applicants note that column 1, lines 50-59 of *Carr et al.*, merely recognizes that response times are dependent on a number of viscosity coefficients. *Carr et al.* goes on to state that the main coefficient to be considered is that known as the "flow aligned" viscosity coefficient. *Carr et al.* further goes on to state that the term "viscosity" as used in the specification is to be understood to mean the flow aligned coefficient in the nematic liquid crystal phase unless otherwise specified.

In other words, ***although Carr et al. recognizes the dependency of response times on viscosity coefficients, Carr et al. in no way recognizes or suggests the particular relationship recited in claims 1 and 2.*** Absent any recognition of the particular relationship, it is inappropriate for the Examiner to argue that the invention represents a mere optimization of the relationship that *Carr et al.* fails to even recognize. (See, e.g., MPEP 2144.05 IB<sup>1</sup>).

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<sup>1</sup>MPEP 2144.05 IB recites, *inter alia*, "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)."

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There is absolutely no teaching or suggestion in *Carr et al.* of the parameter  $(\eta_1 - \eta_2)/Y_1$ , let alone a desire to optimize such parameter within the particular range defined in claims 1 and 2. *Carr et al.* discusses viscosity, but only one component of viscosity as noted above. As such, *Carr et al.* cannot be said to teach or suggest the claimed parameter, nor the claimed range of such parameter.

Accordingly, withdrawal of the rejection is respectfully requested.

#### **IV. REJECTION OF CLAIMS 3-10 UNDER 35 USC §103(a)**

Claims 3-10 stand rejected under 35 USC §103(a) based on Applicants Admitted Prior Art (AAPA) in view of *Takatori*. This rejection is respectfully traversed for at least the following reasons.

Regarding claims 3-10, the Examiner does not expressly rely on *Carr et al.* for rejecting these claims. However, these claims are dependent from claims 1 and 2, and therefore incorporate the limitations of the claims from which they depend. *Takatori* does not make up for the admitted deficiencies in AAPA or the above discussed deficiencies in *Carr et al.* Thus, to the extent the Examiner also relies on *Carr et al.* for rejecting claims 3-10, applicants overcome such rejection on the same basis as claims 1 and 2 discussed above.

#### **V. CONCLUSION**

Accordingly, all claims 1-12 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

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Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

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